THE CLAIMS

Please amend the claims, as follows:

1. (Currently amended) A computerized method of at least one of designing, constructing, and adjusting an orthodic, said method comprising:

~~i) providing pressure and acceleration sensors;~~

~~ii)~~ mounting ~~said~~ pressure and acceleration sensors in a joint-enclosing device;

~~iii)~~ transmitting the data produced by said sensors during actual operation of said joint-enclosing device worn by a specific individual;

~~iv)~~ receiving said sensor signals for analysis by a computer;

~~v)~~ creating a stress-and-acceleration map based on said sensor-based data; and

~~vi)~~ creating a virtual orthodic (model) for support and comfort based on said stress-and-acceleration map.

2. (Previously presented) A method according to claim 1, further comprising:

using at least one of temperature, moisture, and skin conductivity sensors which are correlated with a worn orthodic.

3. (Previously presented) A method according to claim 1, further comprising:

using interpolation techniques to completely map stresses and accelerations experienced by a knee over a period of time.

4. (Previously presented) A method according to claim 3, further comprising:

updating the virtual orthodic model using the interpolation data to obtain an interpolated map.

5. (Previously presented) A method according to claim 4, further comprising:

using the interpolated map to directly design the virtual orthodic in an optimal manner.

6. (Previously presented) A method according to claim 1, further comprising:

using non-linear techniques to model an optimal orthodic.

7. (Previously presented) A method according to claim 6, wherein neural networks is used as a part of the modeling technique.

8. (Previously presented) A method according to claim 7, wherein regression is used as a part of the modeling technique.

9. (Previously presented) A method according to claim 7, wherein expert systems or fuzzy logic is used as a part of the modeling technique.

10. (Previously presented) A method according to claim 1, further comprising:

optimizing the design of the virtual orthodic subject to internal or external constraints.

11. (Previously presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to at least one of design, construct, and adjust an orthodic for an individual, the method comprising:

receiving sensor data from pressure and acceleration sensors mounted on a joint-enclosing device worn by a user;

creating a stress-and-acceleration map based on said data; and

creating a virtual orthodic (model) based on said stress-and-acceleration map.

12. (Previously presented) The method of claim 1, further comprising at least one of:

constructing a physical orthodic based on the virtual orthodic; and

adjusting a physical orthodic based on the virtual orthodic.

13. (Previously presented) The program storage device of claim 11, said method further comprising:

using data from the virtual orthodic to construct a physical orthodic.

14. (Previously presented) A computerized method of at least one of designing, constructing, and adjusting an orthodic, said method comprising:

receiving, in a computer, data from pressure and acceleration sensors mounted on a joint-enclosing device worn by a user; and

generating a stress-and-acceleration map from said data.

15. (Previously presented) The computerized method of claim 14, further comprising:

calculating a virtual orthodic model from said stress-and-acceleration map.

16. (Previously presented) The computerized method of claim 15, further comprising:

using data from said virtual orthodic model as a basis to at least one of construct and adjust a physical orthodic for a user.

17. (Previously presented) The computerized method of claim 14, further comprising:

receiving data from at least one of temperature, moisture, and skin conductivity sensors mounted on said joint-enclosed device.

18. (Previously presented) The computerized method of claim 14, wherein said data is received from a recording device associated with said sensors.

19. (Previously presented) The computerized method of claim 18, wherein said recording device is used to record said data during a period of use by a user of said joint-enclosing device, said method further comprising:

downloading said recorded data into said computer for analysis.

20. (Previously presented) The computerized method of claim 15, wherein said calculating a virtual orthodic comprises using a neural network.

21. (Previously presented) A method of at least one of designing, constructing, and adjusting an orthodic, said method comprising:

receiving, in a computer, dynamic data from at least one sensor mounted on a joint-enclosing device worn by a user; and

using said dynamic data to at least one of design, construct, and adjust an orthodic device.